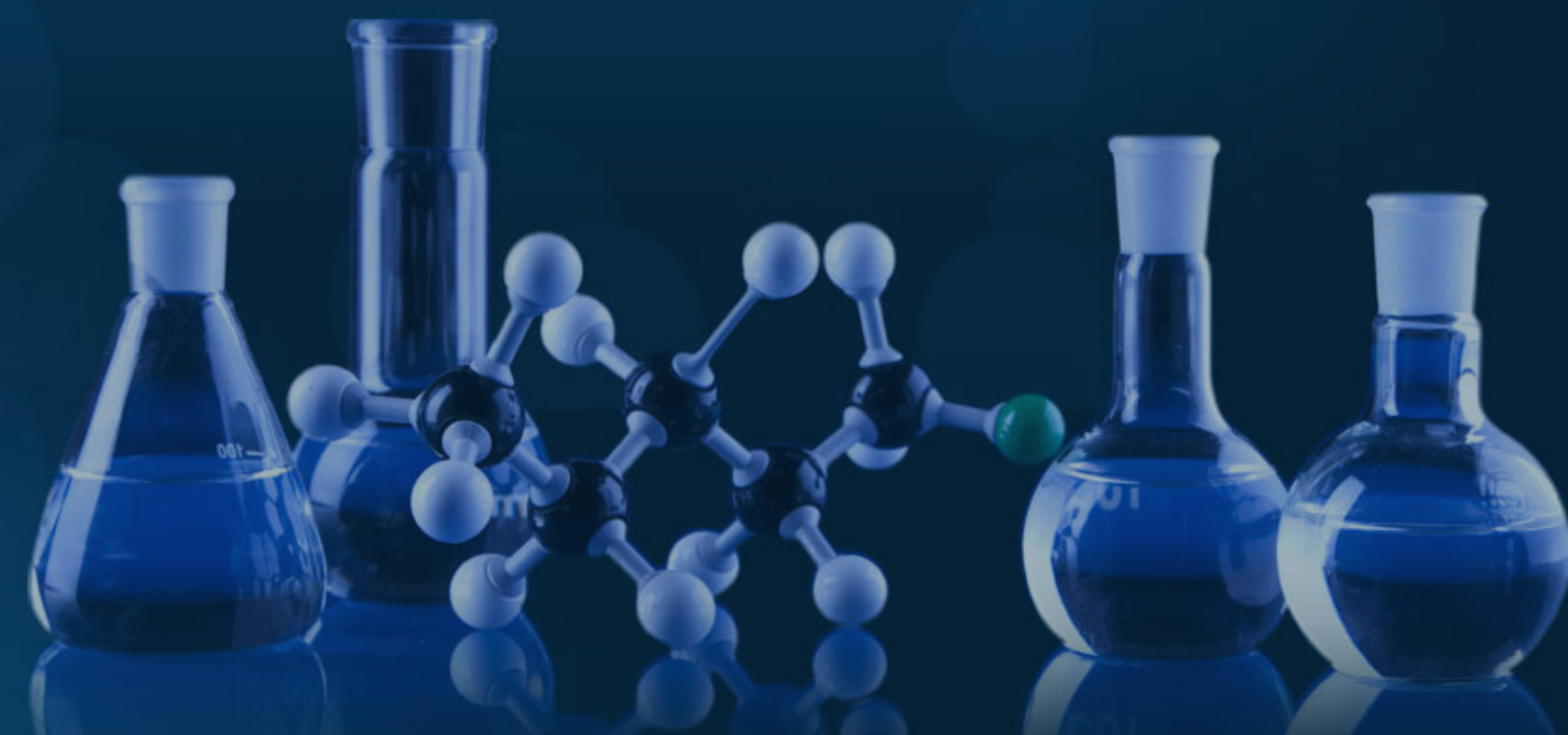




ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

Hair Tissue Mineral Analysis


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Osteoporosis

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Osteoporosis

Osteoporosis, or demineralization of the bones, can often be prevented and even corrected. Hair analysis and nutritional balancing science can help determine the cause and guide correction of the tendency for osteoporosis.

Causes

Conventional medicine cites the main causes of osteoporosis as a lack of estrogen in post-menopausal women, low calcium intake and in some cases, a lack of exercise. There is more to the story.

The role of calcium in osteoporosis is subtle. Many elderly people, for example, have *excess* calcium deposited in their arteries, joints and other places, while their bones lack calcium. They have plenty of calcium, but not in a form that can be retained in the bones. This phenomenon is often called biounavailability. *Taking more calcium is not necessarily beneficial.* Another mineral or nutrient is needed to retain the calcium in the bones.

The adrenal glands also play a role in osteoporosis. Strong adrenal glands produce enough estrogen after menopause to maintain adequate estrogen levels. Strengthening the adrenal glands is much safer than taking synthetic estrogen. Many nutrients are needed to support the adrenal glands. This is where a trace mineral analysis is most helpful.

Hair Analysis Indicators

Hair analysis can help assess the tendency for osteoporosis. Common patterns to look for include:

- **High Calcium Levels** does NOT indicate an excess of calcium, but rather biounavailable calcium. Calcium is building up in the soft tissues, including the hair. This is really a form of calcium loss from the blood and bones that, over time, can lead to osteoporosis.
- **Low Calcium Levels** may indicate a loss of calcium through the urine due to a fight-or-flight stress response. The body spills calcium as part of the fight-or-flight response. If this calcium is not replaced in the diet and the pattern persists, osteoporosis may occur.
- **Low Sodium and Potassium Levels** often accompany an elevated calcium level. Sodium and potassium are needed to keep calcium in an ionized form in the blood. When sodium and potassium are low, calcium may precipitate out of the blood into the joints or soft tissues. Calcium is then drawn out of the bones to replenish the blood. Low sodium and potassium levels also indicate sluggish adrenal gland activity, with resulting low estrogen levels.
- **Very High Sodium Levels** can dissolve calcium out of the tissues and bones, leading to calcium loss.
- **Low or High Copper Levels** often indicates a copper imbalance. Copper is required to keep calcium in the bones.
- **Imbalanced Calcium/Magnesium Ratio** often indicates a magnesium imbalance. Magnesium is needed to help keep calcium in a soluble (usable) form.
- **A Low Sodium/Potassium Ratio** indicates adrenal exhaustion. This may contribute to low hormone production.
- **Low or High Zinc Levels** often indicates a zinc deficiency or zinc loss. Zinc is needed for the absorption of nutrients and for protein synthesis.
- **Boron and Manganese** are also needed for healthy bones. Boron enhances natural hormone production and assists calcium retention. Manganese is needed for the adrenal glands and for all cellular energy production. It is best to supplement these minerals, even if the hair levels appear normal.

Toxic Metals

Toxic metals play a role in many conditions, including osteoporosis. **Lead** can replace calcium in the bones. **Cadmium** interferes with zinc and copper metabolism. **Mercury** may affect thyroid activity and the metabolic rate. Excessive **iron** can interfere with copper and manganese metabolism.

Correction

A scientifically designed nutrition program is helpful for many cases of osteoporosis, no matter how advanced. It is very important to balance the oxidation rate to help make calcium bioavailable and restore normal hormone production. In addition to the regular program, several supplements have been found very beneficial:

MCHC Calcium (micro-crystalline hydroxyapatite crystals) is a form of calcium derived from bone. It appears to be superior to other forms of calcium to help reverse osteoporosis. It can often be substituted for other calcium products in the program.

Zinc, manganese and copper are also important for bone health.

Vitamins A and D assists the body to absorb calcium. Many other vitamins indirectly are needed for the bones. Usually the supplement program will include a variety of the vitamins.

Diet is most important. Soup made with a ham bone or veal bone can add valuable minerals to the diet. Avoiding refined foods and especially soft drinks is important. Most soft drinks contain phosphoric acid. This binds and removes calcium, magnesium and zinc from the body. Excessive phytates found in grains can do the same.

Some research suggests that excessive protein in the diet contributes to osteoporosis however, recent studies do not support this idea. On the contrary, low protein in the diet can negatively affect glandular activity and possibly contribute to osteoporosis. A good balance of nutrients is best.

Exercise, Sunlight, Posture

Mild to moderate exercise promotes bone strength. Excessive exercise, especially in young women, can lower hormone levels and contribute to bone loss. Reasonable sun exposure and the resulting higher level of vitamin D may be helpful. Deep breathing and good posture also contribute to bone health.

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